

MATERIAL SAFETY DATA SHEET

DATE PREPARED: 07/27/1995

MSDS No: 6007

SOLARIS

RosePride™ Systemic Rose & Flower Care

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: RosePride™ Systemic Rose & Flower Care**PRODUCT DESCRIPTION:** Fertilizer/Insecticide

MANUFACTURER

The SOLARIS Group
of Monsanto Company

P.O. Box 5008

San Ramon, CA 94583-0808

EPA REG. NO.: 239-2134A **PN:** 3988

24 HR. EMERGENCY TELEPHONE NUMBERS

Emergency Phone 800-454-2333

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt. %</u>	<u>CAS Registry #</u>
Disulfoton, 0,0-Diethyl S-[2-(Ethylthio)Ethyl] Phosphorodithioate	1	298-04-4
INERT INGREDIENTS	99 .0	

"Inert Ingredients" is a term defined by the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (40 CFR 158.153). It refers to any substance, other than an active ingredient, which is intentionally added to a pesticide product. Some inert ingredients may be hazardous chemicals, as defined by the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200). The hazards associated with these inert ingredients have been included in this document.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Grey to black granules.**IMMEDIATE CONCERNS:** - MAY BE FATAL IF SWALLOWED

- MAY BE ABSORBED THROUGH THE SKIN
- DO NOT BREATHE DUST
- DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING
- KEEP OUT OF REACH OF CHILDREN

POTENTIAL HEALTH EFFECTS

EYES: Eye contact may include discomfort, tearing, swelling, redness, and blurred vision. See Toxicology Information, section (11).

SKIN: This substance is not expected to cause prolonged or significant skin irritation. This substance is moderately toxic to internal organs if absorbed through the skin. The degree of injury will depend on the amount absorbed.

INGESTION: This substance is moderately toxic to internal organs if swallowed. The degree of injury will depend on the amount absorbed from the gut.

INHALATION: Breathing the dust may be irritating to the respiratory tract. If inhaled, this substance is considered practically non-toxic to internal organs.

COMMENTS HEALTH: Depending upon the extent and degree of overexposure to the product, signs and symptoms of cholinesterase inhibition can result following either ingestion, skin contact or inhalation routes of exposure. Signs and symptoms of cholinesterase inhibition can result from either acute (one time), subchronic (repeated short-term) and chronic (daily life-time) overexposure to the product.

Signs and symptoms of cholinesterase inhibition usually occur within 12 hours following overexposure. These effects may include, but may not be limited to, headache, dizziness, weakness, nausea, vomiting, diarrhea, constriction of the pupil of the eye, blurred or dark vision, excessive salivation or nasal discharge, profuse sweating and abdominal cramps. Incontinence, unconsciousness, convulsions and breathing difficulties are indicative of severe poisoning. In untreated severe poisoning, death is due to respiratory failure or cardiac arrest.

4. FIRST AID MEASURES

EYES: Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Call a physician.

SKIN: If on skin, remove contaminated clothing, wash skin with plenty of soap and water. Wash contaminated clothing before reuse.

INGESTION: If swallowed, call a physician or Poison Control Center

immediately. Drink one or two glasses of water and induce vomiting by touching the back of throat with a finger. Repeat until vomit fluid is clear

immediately. Drink one or two glasses of water and induce vomiting by touching the back of throat with a finger. Repeat until vomit fluid is clear. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

INHALATION: If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

NOTES TO PHYSICIAN: This material contains a cholinesterase inhibitor. Measurement of blood cholinesterase activity may be useful in monitoring exposure. If signs of cholinesterase inhibition appear, atropine sulfate is antidotal. 2-PAM (PROTOPAM) is also antidotal and may be used in conjunction with atropine but should not be used alone.

ADDITIONAL INFORMATION: In case of medical emergencies involving this product, call day or night, (800) 454-2333.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: Not Applicable

EXTINGUISHING MEDIA: CO₂, dry chemical, foam and water fog.

HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce oxides of nitrogen.

FIRE FIGHTING PROCEDURES: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of normal products of combustion or oxygen deficiency. Read the entire document.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Sweep up material and place in disposable container. Dispose of in accordance with instructions in Section 13. "DISPOSAL".

LARGE SPILL: Clean up spills immediately, observing precautions in Exposure Controls/ Personal Protection section. Vacuum with machines equipped with high efficiency filters or sweep up material and place in a disposable container. Scrub contaminated area with detergent and water using a stiff broom. Pick up liquid with Oil Dry, cat litter, clay, rags or other absorbent and place in a disposable container. Dispose of in accordance with instructions in Section 13. "DISPOSAL".

GENERAL PROCEDURES: Observe all protection and safety

precautions when cleaning up spills -- see Section 8. "EXPOSURE CONTROLS/PERSONAL PROTECTION". For help with any spill, leak, fire or exposure involving this material, call day or night (800) 454-2333.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Keep pesticide in original container. Avoid contamination of feed and foodstuffs. Store in a secure cool, dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: No special ventilation is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standards (in Section 8), then special ventilation may be required.

PERSONAL PROTECTION

EYES AND FACE: For application of product in accordance with label instructions, no special eye protection is needed.

Handling of the product is not likely to present an eye exposure concern during normal handling. In the event of an accidental discharge of the material during manufacture or handling which could cause eye contact, workers should wear goggles or a face shield.

SKIN: Do not get on skin or on clothing. Wear protective clothing including gloves when handling.

RESPIRATORY: Handling of the product is not likely to present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material during manufacture or handling which produces a heavy dust, workers should put on respiratory protection equipment. Consult respirator manufacturer to determine appropriate type of equipment. Observe respirator use limitations specified by NIOSH MSHA or the manufacturer.

For application of product in accordance with label instructions, no special respiratory protection is required.

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

Chemical Name

0,0-Diethyl S-[2-(Ethylthio)Ethyl]
Phosphorodithioate

EXPOSURE LIMITS

OSHA PEL ACGIH TLV ACGIH STEL

None	0.1 mg/m ³	None
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9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Granular

APPEARANCE: Grey to black granules

pH: No Data Available

PERCENT VOLATILE: No Data Available

SOLUBILITY IN WATER: Miscible with water.

DENSITY: 60 lbs/cu. ft.

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID: Avoid contact with caustics.

HAZARDOUS DECOMPOSITION: Mercaptan vapors may evolve upon heating.

INCOMPATIBLE MATERIALS: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

11. TOXICOLOGICAL INFORMATION

ACUTE

EYES: The hazard evaluation for this material was based on eye irritation test results for a similar material: Slight irritation clearing in 7 days or less.

DERMAL LD₅₀: The hazard evaluation for this material was based on skin irritation test results for a similar material: No irritation at 72 hours. The hazard evaluation for this material was based on dermal toxicity results for a similar material: The dermal LD50 in rabbits is 1.0 g/kg.

ORAL LD₅₀: The hazard evaluation for this material was based on oral toxicity results for a similar material: The oral LD50 in male rats is 1181 mg/kg. The oral LD50 in female rats is 349 mg/kg.

INHALATION LC₅₀: The hazard evaluation for this material was based on inhalation toxicity results for a similar material: No mortality or signs of toxicity were noted in rats exposed for one hour to a stream of heated air which passed through 235 grams of the material at a rate of 5

liters/minute. No LC50 could be determined from this study.

GENERAL COMMENTS: This product contains an organic phosphorus insecticide which inhibits the enzyme cholinesterase. Signs and symptoms which may be seen, usually within 12 hours following overexposure, may include, but may not be limited to, headache, dizziness, weakness, constriction of the pupil of the eye, blurred or dark vision, excessive salivation or nasal discharge, profuse sweating, abdominal cramps, nausea and vomiting. Incontinence, unconsciousness and convulsions indicate severe poisoning. In untreated severe poisoning, respiratory depression or cardiac arrest may be fatal. Repeated exposure may result in depletion of cholinesterase. Additional slight exposure may result in signs and symptoms. Note to Physician: Measurement of blood cholinesterase activity may be useful in monitoring exposure. If signs of cholinesterase inhibition appear, atropine sulfate is antidotal. 2-PAM (PROTOPAM) is also antidotal and may be used in conjunction with atropine but should not be used alone.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No data available.

ECOTOXICOLOGICAL INFORMATION: This material is toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water. This material is toxic to birds and other wildlife. This pesticide is toxic to bees exposed to direct application.

13. DISPOSAL CONSIDERATIONS

FOR LARGE SPILLS: Material collected that cannot be reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures.

PRODUCT DISPOSAL: The Solaris Group is committed to responsible environmental practices and recommends that all of the product be used up, carefully following all label directions and precautions.

If necessary to dispose of partially filled product container, then securely wrap it in several layers of newspaper and discard in trash.

EMPTY CONTAINER: Do not reuse empty container. Discard container in trash.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not Regulated

PRIMARY HAZARD CLASS/DIVISION: None

UN/NA NUMBER: NONE

PACKING GROUP: NO

U.S. SURFACE FREIGHT CLASS: Manufactured fertilizer compounds, NOI, Dry (Density 20 lbs. per cu. ft. or greater)

AIR (ICAO/IATA)

PROPER SHIPPING NAME: Consumer Commodity

SPECIAL SHIPPING NOTES: The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA				
ACUTE:	CHRONIC:	FIRE:	REACTIVITY:	PRESSURE
YES	NO	NO	NO	GENERATING: NO

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA RQ: 1 Lb. of Disulfoton

REPORTABLE SPILL QUANTITY: 1 lb.

EPA

EPA RQ INGREDIENT: Disulfoton

16. OTHER INFORMATION

HMIS CODES

FIRE: 1 **HEALTH:** 1 **REACTIVITY:** 0 **PROTECTION:** -

NFPA CODES

FIRE: 1 HEALTH: 1 REACTIVITY: 0 SPECIAL: -

APPROVAL DATE: 09/11/1995

REVISION SUMMARY New MSDS

COMMENTS: For additional information concerning this product, call the SOLARIS Groups Consumer Helpline at 800-225-2883.

MANUFACTURER DISCLAIMER: This Material Safety Data Sheet (MSDS) contains health, safety and environmental information for you and your employees. It does not replace the precautionary language, use directions, or the storage and disposal information found on the product label. Information contained in this MSDS will help you to prepare for emergency response and to meet community right-to-know, emergency response and reporting requirements under SARA Title III and many other laws. Emergency response agencies and health care providers will also find this additional information useful.

Use of this product is regulated by the U.S. Environmental Protection Agency (EPA) through the approved label copy. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Monsanto Company and The Solaris Group make no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determinations as to its suitability for their purposes prior to use. In no event will Monsanto Company or The Solaris Group be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.